AMENDMENTS TO THE CLAIMS

1. (Original) An artificial tissue comprising a support matrix, microvascular endothelial cells from a first animal, and connective tissue cells from a second animal, wherein the artificial tissue comprises one or more microvessels produced therein.

2. (Original) The artificial tissue of claim 1 further comprising epithelial cells from a third animal.

3. (Original) The artificial tissue of claim 2 wherein the epithelial cells form a mutlilayered epithelium.

4. (Original) The artificial tissue of claims 1 or 2 wherein the first, second and third animals are mammals.

5. (Original) The artificial tissue of claim 4 wherein the mammals are selected from the group consisting of primate, mouse, pig, cow, cat, goat, rabbit, rat, guinea pig, hamster, horse, or sheep.

6. (Original) The artificial tissue of claim 4 wherein the mammals are humans.

7. (Original) The artificial tissue of claims 1 or 2 wherein the first, second and third animals are the same.

8. (Original) The artificial tissue of claims 1 or 2 wherein the first, second and third animals are different.

9. (Original) The artificial tissue of claim 1 or 2 wherein the support matrix comprises Vitrogen®.

10. (Original) The artificial tissue of claim 1 or 2 wherein the microvascular endothelial cells comprise primary human adult lung microvascular cells.

11. (Original) The artificial tissue of claim 1 or 2 wherein the connective tissue cells comprise primary human adult dermal fibroblasts.

12. (Original) The artificial tissue of claims 2 or 3 wherein the epithelial cells comprise primary human adult keratinocytes.

13. (Original) An artificial tissue comprising Vitrogen®, primary human adult lung microvascular cells, and primary human dermal fibroblasts wherein the artificial tissue comprises one or more microvessels produced therein.

14. (Original) An artificial tissue comprising Vitrogen®, primary human adult lung microvascular cells, primary human dermal fibroblasts, and primary human keratinocytes wherein the artificial tissue comprises one or more microvessels produced therein.

15. (Original) The artificial tissue of claims 1 or 2 wherein the artificial tissue produces one or more compounds selected from the group consisting of laminin, fibronectin, collagen I, collagen III, hyaluronic acid, VEGF 145, VEGF 121, bFGF, IL-8, Syndecan-1, CXCR-1, CXCR-2, a mannose-containing protein, an acetylglucosamine-containing protein, PECAM-1, alpha-SMA, MMP-2, a growth factor receptor, plasminogen activator, mSRA, and CD68.

16. (Original) The artificial tissue of claims 1 or 2 wherein the one or more microvessels produce one or more blood cells.

17. (Original) The artificial tissue of claims 16 wherein the blood cells comprise mononuclear leukocytes.

18. (Original) The artificial tissue of claims 1 or 2 wherein the artificial tissue produces one or more perioendothelial cells.

19. (Original) The artificial tissue of claims 1 or 2 wherein the artificial tissue produces an extracellular matrix.

20. (Original) The artificial tissue of claims 1 or 2 wherein the artificial tissue is self-maintained.

21. (Original) A method for producing an artificial tissue comprising: mixing together a support matrix and connective tissue cells to form a support matrix-connective tissue mixture and forming a culture comprising two layers of support matrix-connective tissue mixture separated by a layer of endothelial cells, wherein said endothelial cells contact inner surfaces of the support matrix-connective tissue mixture layers.

22. (Original) The method of claim 21 further comprising plating a layer of epithelial cells on an outer surface of one layer of support matrix-connective tissue mixture.

23. (Original) The artificial tissue produced by the method of claim 21 or claim 22.

24. (Original) A method for studying a biological process, said method comprising administering a test compound to the artificial tissue of claim 1 or claim 2 and measuring the effect of the test compound on a parameter of the biological process.

25. (Original) The artificial tissue of claims 1 or 2 wherein the tissue is maintained in vitro.

26. (Original) The artificial tissue of claims 1 or 2 wherein the tissue is a composition suitable for tissue grafting.

27. (Currently Amended) A method of screening for an agent that inhibits angiogenesis, said method comprising:

a) contacting a biological culture comprising an adhesion polypeptide selected from the group consisting of VE-Cadherin and PE-CAM with a test agent;

b) contacting said biological culture with a chemokine or an angiogenic fragment thereof;

c) detecting the level of phosphorylation of said adhesion polypeptide, wherein: ~~an increase~~a decrease in the level of phosphorylation, as compared to said level in a biological culture of the same type contacted with a smaller amount of the test agent, indicates that the test agent inhibits angiogenesis.

28. (Original) The screening method of claim 27 wherein said method additionally comprises recording any test agent that reduces the level of phosphorylation in a database of agents that inhibit angiogenesis.

29. (Original) The screening method of claim 27 wherein said smaller amount of the test agent is no test agent.

30. (Original) The screening method of claim 27 wherein the chemokine is a CXC chemokine.

31. (Original) The screening method of claim 30 wherein the chemokine is interleukin-8 (IL-8).

32. (Original) The screening method of claim 30 wherein said biological culture is in vitro.

33. (Currently Cancelled)

34. (Original) A method of prescreening for an agent that inhibits angiogenesis, said method comprising:

a) contacting an adhesion polypeptide selected from the group consisting of VE-Cadherin and PE-CAM with a test agent; and

b) detecting specific binding of the test agent to the adhesion polypeptide.

35. (Original) A method of screening for an agent that inhibits angiogenesis, said method comprising:

a) contacting a biological culture comprising MMP-9 with a test agent;

b) contacting said biological culture with a chemokine or an angiogenic fragment thereof;

c) detecting the level of MMP-9 activity, wherein a decrease in the level of MMP-9 activity, as compared to said level in a biological culture of the same type contacted with a smaller amount of the test agent, indicates that the test agent inhibits angiogenesis.

36. (Original) The screening method of claim 35 wherein said method additionally comprises recording any test agent that reduces the level of MMP-9 activity in a database of agents that inhibit angiogenesis.

37. (Original) The screening method of claim 35 wherein said smaller amount of the test agent is no test agent.

38. (Original) The screening method of claim 35 wherein the chemokine is a CXC chemokine.

39. (Original) The screening method of claim 38 wherein the chemokine is interleukin-8 (IL-8).

40. (Original) The screening method of claim 38 wherein said biological culture is in vitro.

41. (Original) The screening method of claim 38 wherein the biological culture is the artificial tissue of claim 1.

42. (Original) A method of prescreening for an agent that inhibits angiogenesis, said method comprising:

a) contacting MMP-9 with a test agent; and

b) detecting specific binding of the test agent to MMP-9.